

High Voltage Circuits Implemented Using Low Voltage Transistors

Abstract

Transistors of low voltage specification are used to process information in a signal received at a high(er) voltage level. A protection circuit ensures that the cross terminal voltages do not exceed an allowed maximum voltage (e.g., 2.4 V for transistors of 1.8V specification). In an embodiment, the protection circuit contains a PMOS transistor which turns off if a protected cross terminal voltage exceeds such allowed maximum voltage. As a result, protection may be provided while consuming minimal power. The protection circuit may be employed in various types of circuits such as input buffers and logic gates. The protection circuits and the input buffers may potentially be implemented using transistors of a single voltage specification.